



STATE OF ARIZONA
DEPARTMENT OF EMERGENCY AND MILITARY AFFAIRS
DEMA Procurement Office, Building #M5330
5636 East McDowell Road
Phoenix, Arizona 85008-3495.

REQUEST FOR QUOTATION NUMBER: Q7-0009 (NOTE: THIS IS NOT A PURCHASE ORDER)

QUOTATION DUE DATE: 2:00 P.M. MST (MST), [September 18, 2007](#)

In accordance with the Arizona Procurement Code, A.R.S. Title 41, Chapter 23, competitive sealed [quotations](#) for the material or service specified will be received by the Department of Emergency and Military Affairs, Purchasing and Contracting Office (State), until the date and time cited.

A FAXED OFFER IS ACCEPTABLE. FAX OFFER TO (602) 267-2576. A hard copy of your offer shall also be immediately mailed to: Karie Ingles, CPPB, DEMA Procurement Office, 5636 E. McDowell Rd., Building #M5330, Phoenix, AZ 85008.

All offers must be in the possession of the Department Procurement Office (State) on, or prior to, the due date and time. Except as provided in the Arizona Procurement Code, late offers will not be considered.

MATERIAL/SERVICE OR PROJECT LOCATION: [1301 North 52nd Street, Phoenix, AZ 85008.](#)

SPECIFICATIONS/SCOPE OF WORK: Furnish all labor, supplies, material, applicable taxes, transportation and services required to: [Renovate Four Built-Up Roof Areas on the Combined Support Maintenance Shop \(CSMS\) Bldg M5901](#)

SITE VISIT: A [site visit](#) will be held at 9:00 A.M. (MST), [September 11, 2007](#) at [Combined Support Maintenance Shop \(CSMS\) BLDG M5901, 1301 North 52nd Street, Phoenix, AZ 85008](#). All potential Offerors are highly encouraged to attend.

PROCUREMENT RELATED QUESTIONS SHALL BE DIRECTED TO:

BUYER: [Karie Ingles, CPPB](#); **TELEPHONE:** [602-267-2511](#); **FAX:** [602-267-2576](#)

TECHNICAL QUESTIONS REGARDING THE SCOPE/STATEMENT OF WORK SHALL BE DIRECTED TO:

[Lon House, Project Manger](#) **TELEPHONE:** [\(602\) 267-2991](#) (Refer to Project No. 04)

SOLICITATION ISSUE DATE: [August 29, 2007](#)

It is the responsibility of the bidder submitting an offer to fully understand all terms and conditions referenced in this solicitation. The [award will be made to the lowest, responsive, responsible bidder. Your respective proposed delivery schedule\(s\) must be indicated in the spaces below.](#) All pricing must be FOB Destination, Freight Pre-Paid.

Quotations are due at the Department of Emergency & Military Affairs, Purchasing and Contracting Office, 5636 E. McDowell Rd. Bldg. #M5330, Phoenix, AZ 85008-3495 by the due date and time.

(FAXED COPIES OF YOUR QUOTATION AND REQUESTED DOCUMENTS ARE ACCPETABLE. PLEASE FAX TO (602) 267-2576). IN ADDITION, A HARDCOPY OF THE OFFER AND APPLICABLE DOCUMENTS ARE REQUIRED TO BE MAILED TO THE BUYER'S ATTENTION AT THE ABOVE ADDRESS.

REQUEST FOR QUOTATION NUMBER: Q7-0009, Renovate Four Built-Up Roof Areas on the Combined Support Maintenance Shop (CSMS) Bldg M5901

TOTAL:

- 2 -

ATTACHMENT B – (Mandatory Submission Requirement)
SMALL, WOMAN-OWNED AND/OR MINORITY-OWNED BUSINESS CERTIFICATION

Executive Order 2004-29 requires all State of Arizona agencies to track and report solicitations distributed and awarded to Small, Woman-Owned and/or Minority-Owned firms.

A small business is one that, including its affiliates, is independently owned and operated, is not dominant in the type of business it conducts, and employs fewer than 100 employees OR has less than \$4 million in annual sales. To qualify as a minority or women-owned business, the firm must be at least 51% minority or woman owned.

When practical, purchases/contracts less than \$50,000 will be made from small businesses.

CHECK THE APPROPRIATE CLASSIFICATION APPLICABLE TO YOUR FIRM:

<ul style="list-style-type: none"><input type="radio"/> 1.0 Small Business (SB)<input type="radio"/> 2.0 Small Business- African American (SBAA)<input type="radio"/> 3.0 Small Business- Asian (SBA)<input type="radio"/> 4.0 Small Business- Hispanic (SBH)<input type="radio"/> 5.0 Small Business- Native American (SBNA)<input type="radio"/> 6.0 Small Business- Other (SBO)<input type="radio"/> 7.0 Small, Woman Owned Bus. (SWOB)<input type="radio"/> 8.0 Small, Woman Owned Bus.- African American (SWOBAA)<input type="radio"/> 9.0 Small, Woman Owned Bus.- Asian (SWOBA)<input type="radio"/> 10.0 Small, Woman Owned Bus. Hispanic (SWOBH)<input type="radio"/> 11.0 Small, Woman Owned Bus. Native American (SWOBNA)<input type="radio"/> 12.0 Small, Woman Owned Bus. Other (SWOBO)	<ul style="list-style-type: none"><input type="radio"/> 13.0 Woman Owned Business (WOB)<input type="radio"/> 14.0 Woman Owned Bus. African American (WOBAA)<input type="radio"/> 15.0 Woman Owned Bus. Asian (WOBA)<input type="radio"/> 16.0 Woman Owned Bus. Hispanic (WOBH)<input type="radio"/> 17.0 Woman Owned Bus. Native American (WOBNA)<input type="radio"/> 18.0 Woman Owned Bus. Other (WOBO)<input type="radio"/> 19.0 Minority Owned Bus. African American (MAA)<input type="radio"/> 20.0 Minority Owned Bus. Asian (MA)<input type="radio"/> 21.0 Minority Owned Bus. Hispanic (MHA)<input type="radio"/> 22.0 Minority Owned Bus. Native American (NA)<input type="radio"/> 23.0 Minority Owned Bus. Other (MO)
<input type="checkbox"/> 24.00 (NONE) None of these categories is applicable and firm does not qualify as either a Small, Woman, or Minority-Owned firm.	

=====
Company Name: _____

Address: _____

City: _____ State: _____ Zip Code _____

I hereby certify that _____ (Firm/Company Name) ☐ is or ☐ is not (check one) a small business with less than 100 employees and/or less than \$4 million in annual sales.

Signature

Date

I hereby certify that _____ (Firm/Company Name) ☐ is or ☐ is not (check one) a
☐ Minority and/or ☐ Women (check one or both) owned business in accordance with Executive Order 2004-29 issued by Governor Napolitano.

Signature

Date

INSTRUCTIONS TO OFFERORS

1. **Submission.** Each offer shall be signed and received in the Department of Emergency and Military Affairs Procurement Office (State) by the date and time indicated. Erasures, interlineations or other modifications in the offer must be acknowledged (i.e. initialed) by the person signing the offer.
2. **Offer Waiver and Rejection.** Notwithstanding any other provision of this solicitation, the Department expressly reserves the right to:
 - a. Waive any immaterial defect or informality; or
 - b. Reject any or all quotations, or portions thereof, or
 - c. Reissue a Request for quotation/estimate.
3. **Taxes.** The State will pay any applicable State of Arizona transaction privilege tax and any other applicable state or local taxes on the services rendered or products supplied. No payment shall be made for any personal property taxes levied on vendor or any taxes levied on employee's wages. Applicable taxes must be shown separately on any invoice submitted for payment and such sums shall be due and payable to vendor upon delivery. If your firm is claiming a tax exemption, a valid tax exemption certificate (copy) and certificate number must be provided with your quote.
4. **Award of Contract.** Unless the Bidder states otherwise, or unless otherwise provided within this solicitation, the State reserves the right to award by individual line item, by group of line items, or as a total, whichever is deemed most advantageous to the State.

A response to this solicitation is an offer to contract with the State based upon the terms, conditions and specifications contained herein. An offer does not become a contract unless an authorized procurement officer accepts it in writing.

5. **Americans with Disabilities Act.** People with disabilities may request special accommodations such as interpreters, alternative formats, or assistance with physical accessibility. Requests for special accommodations must be made seventy-two (72) hours prior to quote due date. If you require accommodations, please contact the Buyer, as stated on the front page of this package.
6. **Incorporation by Reference.** The following documents shall apply to all work under this solicitation and are hereby incorporated herein by reference:
 - a. Uniform Instructions to Offerors (**Version 7.1, Dated 05/01/03**)
 - b. Uniform General Terms and Conditions (**Version 7.0, Dated 05/01/03**)

A copy of these documents can be obtained by visiting the Arizona Department of Emergency and Military Affairs Procurement Office, by calling 602-267-2699 or from the following url:
<http://www.azspo.az.gov/PoliciesDocuments/index.htm>

7. **Offer Acceptance Period:** Any Offeror submitting an offer under this Solicitation shall hold its offer open for a period of **ninety (90)** days after the solicitation due date.
8. **Manufacturers Names:** Any Manufacturers names, trade name, brand names or catalogue numbers used in the specifications/Scope of Work are for the purpose of describing and/or establishing a general quality level, design or performance desired. Such references are not intended to limit or be restrictive but are necessary to approximate the quality of design or performance which is desired. Any quote that proposes like quality, design or performance will be considered. If the description of your quote differs in any way, you must give a complete and detailed description of your exceptions to include pictures and literature if necessary. Unless a specific exception is made, the assumption will be that you are quoting exactly as specified in the Request for Quotation.
9. **Descriptive Literature:** All offers must include complete manufacturers descriptive literature regarding items they propose to furnish. Literature shall be sufficient in detail in order to allow full and fair evaluation of the offer submitted. Failure to include this may result in the proposal being rejected.
10. **Contractor License.** Each Offeror must be properly licensed to perform all work covered by this solicitation in accordance with the laws of the State of Arizona. Proof of licensure may be requested by the State prior to contract award.

11. **Warranty.** The successful Contractor shall warrant all labor and materials for one (1) year from the date of acceptance by the State.
12. **Notice to Proceed.** The Department of Emergency and Military Affairs will issue a Notice to Proceed or executed Purchase Order for the material or service covered under this agreement.
13. **Completion Time.** The scope of this agreement and/or final delivery shall be completed within ninety (90) calendar days from the date of the Notice To Proceed.
14. **Post Award Conference.** After award of this agreement, the Contractor may be required to participate in a post award meeting for the purpose of ensuring a complete understanding of the requirements of the contract. This meeting will be arranged by the department procurement officer or designated representative.
15. **Insurance.** The State requires a complete and valid Certificate of Insurance prior to the commencement of any service or activity specified in this solicitation. The State will notify the successful contractor(s) of the intent to issue a contract award. The coverages shall be maintained in full force and effect during the term of the contract and shall not serve to limit any liabilities or any other contractor obligations.
16. **Indemnification Clause.** Contractor shall indemnify, defend, save and hold harmless the State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees (hereinafter referred to as "Indemnitee") from and against any and all claims, actions, liabilities, damages, losses, or expenses (including court costs, attorneys' fees, and costs of claim processing, investigation and litigation) (hereinafter referred to as "Claims") for bodily injury or personal injury (including death), or loss or damage to tangible or intangible property caused, or alleged to be caused, in whole or in part, by the negligent or willful acts or omissions of Contractor or any of its owners, officers, directors, agents, employees or subcontractors. This indemnity includes any claim or amount arising out of or recovered under the Workers' Compensation Law or arising out of the failure of such contractor to conform to any federal, state or local law, statute, ordinance, rule, regulation or court decree. It is the specific intention of the parties that the Indemnitee shall, in all instances, except for Claims arising solely from the negligent or willful acts or omissions of the Indemnitee, be indemnified by Contractor from and against any and all claims. It is agreed that Contractor will be responsible for primary loss investigation, defense and judgment costs where this indemnification is applicable. In consideration of the award of this contract, the Contractor agrees to waive all rights of subrogation against the State of Arizona, its officers, officials, agents and employees for losses arising from the work performed by the Contractor for the State of Arizona.

This indemnity shall not apply if the contractor or sub-contractor(s) is/are an agency, board, commission or university of the State of Arizona.

17. **Insurance Requirements.** Contractor and subcontractors shall procure and maintain until all of their obligations have been discharged, including any warranty periods under this Contract, are satisfied, insurance against claims for injury to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors.

The insurance requirements herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract. The State of Arizona in no way warrants that the minimum limits contained herein are sufficient to protect the Contractor from liabilities that might arise out of the performance of the work under this contract by the Contractor, its agents, representatives, employees or subcontractors, and Contractor is free to purchase additional insurance.

A. Minimum Scope and Limits of Insurance: Contractor shall provide coverage with limits of liability not less than those stated below.

1. Commercial General Liability – Occurrence Form

Policy shall include bodily injury, property damage, personal injury and broad form contractual liability coverage.

• General Aggregate	\$1,000,000
• Products – Completed Operations Aggregate	\$1,000,000
• Personal and Advertising Injury	\$1,000,000
• Blanket Contractual Liability – Written and Oral	\$1,000,000
• Fire Legal Liability	\$50,000
• Each Occurrence	\$1,000,000

- a) The policy shall be endorsed to include the following additional insured language: "The State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees shall be named as additional insureds with respect to liability arising out of the activities performed by or on behalf of the Contractor".
- b) Policy shall contain a waiver of subrogation against the State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees for losses arising from work performed by or on behalf of the Contractor.

2. Automobile Liability

Bodily Injury and Property Damage for any owned, hired, and/or non-owned vehicles used in the performance of this Contract.

Combined Single Limit (CSL)	\$1,000,000
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- a) The policy shall be endorsed to include the following additional insured language: "The State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees shall be named as additional insureds with respect to liability arising out of the activities performed by or on behalf of the Contractor, involving automobiles owned, leased, hired or borrowed by the Contractor".

3. Worker's Compensation and Employers' Liability

Workers' Compensation	Statutory
Employers' Liability	
Each Accident	\$ 500,000
Disease – Each Employee	\$ 500,000
Disease – Policy Limit	\$1,000,000

- a) Policy shall contain a waiver of subrogation against the State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees for losses arising from work performed by or on behalf of the Contractor.
- b) This requirement shall not apply to: Separately, EACH contractor or subcontractor exempt under A.R.S. 23-901, and when such contractor or subcontractor executes the appropriate waiver (Sole Proprietor/Independent Contractor) form.

18. Additional Insurance Requirements. The policies shall include, or be endorsed to include, the following provisions:

- a) The State of Arizona, its departments, agencies, boards, commissions, universities and its officers, officials, agents, and employees wherever additional insured status is required such additional insured shall be covered to the full limits of liability purchased by the Contractor, even if those limits of liability are in excess of those required by this Contract.
- b) The Contractor's insurance coverage shall be primary insurance with respect to all other available sources.
- c) Coverage provided by the Contractor shall not be limited to the liability assumed under the indemnification provisions of this Contract.

19. Notice of Cancellation. Each insurance policy required by the insurance provisions of this Contract shall provide the required coverage and shall not be suspended, voided, canceled, or reduced in coverage or in limits except after thirty (30) days prior written notice has been given to the State of Arizona. Such notice shall be sent directly to the Arizona Department of Emergency and Military Affairs, Attn: Procurement Manager, 5636 E. McDowell Road, Phoenix, AZ 85008-3495, and shall be sent by certified mail, return receipt requested.

20. Acceptability of Insurers. Insurance is to be placed with duly licensed or approved non-admitted insurers in the state of Arizona with an "A.M. Best" rating of not less than A- VII. The State of Arizona in no way warrants that the above-required minimum insurer rating is sufficient to protect the Contractor from potential insurer insolvency.

21. **Verification of Coverage.** Contractor shall furnish the State of Arizona with certificates of insurance (ACORD form or equivalent approved by the State of Arizona) as required by this Contract. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be received and approved by the State of Arizona before work commences. Each insurance policy required by this Contract must be in effect at or prior to commencement of work under this Contract and remain in effect for the duration of the project. Failure to maintain the insurance policies as required by this Contract, or to provide evidence of renewal, is a material breach of contract.

All certificates required by this Contract shall be sent directly to the Arizona State Department of Emergency and Military Affairs, Attn: Procurement Manager, 5636 E. McDowell Rd., Phoenix, AZ 85008-3495. The State of Arizona project/contract number and project description shall be noted on the certificate of insurance. The State of Arizona reserves the right to require complete, certified copies of all insurance policies required by this Contract at any time. DO NOT SEND CERTIFICATES OF INSURANCE TO THE STATE OF ARIZONA'S RISK MANAGEMENT SECTION.

22. **Subcontractors.** Contractors' certificate(s) shall include all subcontractors as insureds under its policies or Contractor shall furnish to the State of Arizona separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to the minimum requirements identified above.
23. **Approval.** Any modification or variation from the insurance requirements in this Contract shall be made by the Department of Administration, Risk Management Section, whose decision shall be final. Such action will not require a formal Contract amendment, but may be made by administrative action.
24. **Exceptions.** In the event the Contractor or sub-contractor(s) is/are a public entity, then the Insurance Requirements shall not apply. Such public entity shall provide a Certificate of Self-insurance. If the contractor or sub-contractor(s) is/are a State of Arizona agency, board, commission, or university, none of the above shall apply.
25. **Term.** The term of any resultant agreement shall commence on the date of award and continue in full force and effect for a period of ninety (90) days unless terminated, canceled or extended as otherwise provided herein. The State of Arizona reserves the right to unilaterally extend the period of any resultant contract for thirty-one (31) days beyond the stated expiration date.
26. **Termination.** The DEMA Procurement Office reserves the right to terminate this agreement for convenience without penalty or recourse by giving thirty (30) days prior written notice to the Contractor. In the event DEMA exercises this provision, all documents, data, and reports prepared by the Contractor under this agreement shall become the property of the State of Arizona (at the option of the DEMA Procurement Office). The Contractor shall be entitled to receive just and equitable compensation for the work completed to the effective date of the termination.
27. **Arbitration.** After exhausting all applicable administrative review procedures, to the extent required by A.R.S. 12-1518 except as may be required by other applicable statutes, the parties to this agreement shall resolve all disputes arising out of or relating to this agreement through arbitration.
28. **Offshore Performance of Work Prohibited.** Due to security and identity protection concerns, direct services under this contract shall be performed within the borders of the United States. Any services that are described in the specifications or scope of work that directly serve the State of Arizona or its clients and may involve access to secure or sensitive data or personal client data or development or modification of software for the State shall be performed within the borders of the United States. Unless specifically stated otherwise in the specifications, this definition does not apply to indirect or "overhead" services, redundant back-up services or services that are incidental to the performance of the contract. This provision applies to work performed by subcontractors at all tiers. Offerors shall declare all anticipated offshore services in their quotation or proposal.
29. **Federal Immigration Laws, Compliance by State Contractors.** By signing the Offer the Offeror warrants that it and all proposed subcontractors are in compliance with the Federal Immigration and Nationality Act (FINA) and all other Federal immigration laws and regulations related to the immigration status of its employees. The Offeror shall obtain statements from all proposed subcontractors certifying compliance with this requirement and shall furnish the statements to the Procurement Officer upon request.

By entering into the Contract, the Contractor warrants compliance with the Federal Immigration and Nationality Act (FINA) and all other Federal immigration laws and regulations related to the immigration status of its employees. The Contractor shall obtain statements from its subcontractors certifying compliance and shall furnish the statements to the Procurement Officer upon request. These warranties shall remain in effect through the term of the Contract. The Contractor and its subcontractors shall also maintain Employment Eligibility Verification forms (I-9) as required by the U.S. Department of Labor's Immigration and Control Act, for all employees performing work under the Contract. I-9 forms are available for download at USCIS.GOV.

The State may request verification of compliance for any Contractor or subcontractor performing work under the Contract. Should the State suspect find or that the Contractor or any of its subcontractors are not in compliance, the State may pursue any and all remedies allowed by law, including, but not limited to: suspension of work, termination of the Contract for default, and suspension and/or debarment of the Contractor. All costs necessary to verify compliance is the responsibility of the Contractor.

30. **Small Business.** In accordance with Executive Order 2004-29 and Rule R2-7-D302.B (Small Business Set Aside) of the Arizona Procurement Code, this request for quotation is restricted to small, woman-owned and/or minority-owned businesses. Businesses qualifying as such must self certify their status as such by filling out and completing ATTACHMENT B (SMALL, WOMAN-OWNED AND/OR MINORITY-OWNED BUSINESSES CERTIFICATION).

EXHIBIT 1

SCOPE OF WORK

State of Arizona
Department of Emergency and Military Affairs
Facilities Management Office

PROJECT

Renovate Four Built-Up Roof Areas on the CSMS
Building No. M5901

LOCATION

1335 North 52nd Street
Phoenix, Arizona 85008

Date

May 15, 2007

FMO File Number

04070056

PROJECT DIRECTORY

Owner:	Arizona Department of Emergency and Military Affairs 5636 E. McDowell Road Phoenix, Arizona 85008-3495
Facilities Management Officer:	LTC Steven L. Smith Facilities Management Office Building M5330 (602) 267-2771
Deputy State Facilities Officer:	Ms. Jeanne Blaes Facilities Management Office Building M5330 (602) 267-2830
Maintenance Services Supervisor	Mr. Walter Hall Facilities Management Office Building M5330 (602) 267-2406
Point of Contact:	Mr. Lon House Facilities Management Office Building M5330 (602) 267-2991
On Site Contact	Mr. Lon House Facilities Management Office Building M5330 (602) 267-2991
Purchasing Officer:	Ms. Karie Ingles DEMA Purchasing & Contracting Building M5330 (602) 267-2511

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DIVISION 1 GENERAL REQUIREMENTS

SECTION 01010 SUMMARY OF WORK

- 1.1 Construct the work as specified under a lump sum contract.
 - A. Work to be performed on this project consists of preparing, regravelling and coating, with an insulative and reflective cement base roof coating, four built-up roof areas on the CSMS structure.
 - B. Additional and related construction consists of, but is not limited to:
 - 1. Removing and reinstalling sheet metal copings into cleats spaced 24-inches on centers, replacing any defective or deformed pieces.
 - 2. Cleaning and preparation of the metal gutters surface, rust treatment as needed by project conditions, structural repair of the gutter if required, sealing of seams with mastic grade material, and the application of a fluid urethane coating to the gutters waterways.
 - C. All work to be as specified herein and/or shown or noted on drawings.
- 1.2 Scheduling:
 - A. A preconstruction meeting shall be coordinated between the Owner and the Contractor at the time of the Award of Contract
 - B. Perform work to accommodate Owner's occupancy requirements during the construction period, coordinate construction schedule and operations with Owner and other Contractors on the site.
 - 1. The Contractor shall prepare and submit for the Owner's information an estimated progress schedule.
 - 2. The progress schedule shall be related to the entire project to the extent required by the Contract Documents.
 - 3. The progress schedule shall be submitted to the Owner not later than three (3) days prior to start of construction.
- 1.3 Inspections:
 - A. All work will be inspected by Point of Contact (POC) and Owner's construction inspector during progress and upon completion of work.
 - 1. The POC shall be given three (3) day's notice before work begins.
 - 2. Final payment will not be approved until the POC certifies that work was accomplished in accordance with this Scope of Work.
- 1.4 Safety Standards:
 - A. See Paragraph 8 of the Arizona Department of Emergency and Military Affairs Special Terms and Conditions Construction Contract.
- 1.5 Traffic Control:
 - A. The Contractor shall be responsible for the control of all traffic in the work area and for the placement of traffic barriers as needed.
- 1.6 Refuse Disposal:
 - A. Provide off-site disposal of all waste products, trash, debris, etc. Owner's trash receptacles will not be used by the Contractor.

SECTION 01080 APPLICABLE CODES

- 1.1 The Contractor shall obtain and comply with all local permits and regional and state regulations.

SECTION 01340 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- 1.1 Summary:
 - A. Make submittals required by the Scope of work, and revise and resubmit as necessary to establish compliance with the specified requirements, all as described in this section.
- 1.2 Submittals:
 - A. Make submittals of shop drawings, samples, substitution requests, and other items in accordance with the provisions of this section.

- 1.3 Quality Assurance:
- A. Coordination of Submittals:
1. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted.
 2. Verify that each item and the submittal for it conform in all respect with the specified requirements.
 3. By affixing the Contractor's signature to each submittal, verify that this coordination has been performed.
- 1.4 Shop Drawings:
- A. Scale and Measurements: Make Shop Drawings accurately to a scale sufficiently large to show all pertinent aspects of the item and its method of connection to the work.
- B. Types of Prints Required:
Submit Shop Drawings in the form of one sepia transparency of each sheet plus three blueline or blackline prints of each sheet.
Blueprints will not be acceptable.
- C. Review comments of the POC will be shown on the sepia transparency when it is returned to the Contractor. The Contractor may make and distribute such copies as are required for his purposes.
- 1.5 Manufacturers' Literature:
- A. Where contents of submitted literature from manufacturers include data not pertinent to the submittal, clearly show which portion of the contents is being submitted for review.
- B. Submit the number of copies, which are required to be returned, plus one copy that will be retained by the Owner.
- 1.6 Samples:
- A. Provide Sample or Samples identical to the precise article proposed to be provided. Identify as described under "Identification of Submittals" below.
- B. Number of Samples Required:
1. Unless otherwise specified, submit Samples in the quantity that is required to be returned, plus one that will be retained by the Owner.
 2. By prearrangement in specific cases, a single Sample may be submitted for review and, when approved, be installed in the Work at a location agreed upon by the Owner.
- 1.7 Colors and Patterns:
- A. Unless the precise color and pattern is specifically called out in the Drawings or this Scope, and whenever a choice of color or pattern is available in the specified products, submit accurate color and pattern charts to the POC for selection.
- 1.8 Identification of Submittals:
- A. Consecutive Number All Submittals:
1. When material is resubmitted for any reason, transmit under a new letter or transmittal and with a new transmittal number.
 2. On resubmittals, cite the original submittal number for reference.
- B. Accompany each submittal with a letter of transmittal showing all information required for identification and checking.
- C. On at least the first page of each submittal, and elsewhere as required for positive identification, show the submittal number in which the item was included.
- D. Submittal Log:
1. Maintain an accurate submittal log for the duration of the Work, showing current status of all submittals at all times.

- 1.9 Timing of Submittals:
- A. Make submittals far enough in advance of scheduled dates for installation to provide time required for review, for securing necessary approvals, for possible revisions and resubmittals, and for placing orders and securing delivery.
 - B. In scheduling, allow at least five working days for review by the POC following the POC's receipt of the submittal.

1.10 Required Submittals:

- A. Submittals required by the Scope of Work include, but are not necessarily limited to:

<u>Section Number</u>	<u>Submittal Item</u>
01600	Product listing
01700	Contract closeout items
07511	Regravel and Coat Four Built-Up Roofing Areas
07540	Fluid Applied Roofing (for gutters)
07900	Sealant

SECTION 01510 TEMPORARY UTILITIES

- 1.1 Temporary electricity, water and sanitary facilities are available on jobsite.
- 1.2 Coordinate with Owner, the use of the building telephone and restrooms.
- 1.3 The Contractor shall supply adequate cool pure drinking water for the use of employees on the project. National Guard facilities may not be available.

SECTION 01530 BARRIERS

- 1.1 Provide and maintain all fences, barricades, lights and other protective structures or devices necessary for the safety of workmen, equipment, the public and property as required by Federal, State, County or Municipal laws and regulations, local ordinances, laws and other requirements of authorities having jurisdiction with regard to safety precautions, operations and fire hazards.

SECTION 01600 MATERIALS AND EQUIPMENT

- 1.1 Summary:
 - A. Materials or equipment shall be delivered to the project in the manufacturer's original sealed, labeled containers, and shall be adequately protected against moisture, dust, tampering or damage from improper handling or storage. Materials shall not be delivered to the site before they are needed.
 - B. Storage of materials and construction equipment shall be coordinated with the Owner. Access to adjacent buildings shall be maintained free and clear at all times. Careful planning and scheduling of deliveries is mandatory. The Contractor shall assume full responsibility for properly storing and protecting materials and equipment.
- 1.2 Substitutions:
 - A. Refer to the Instructions to Bidders for information regarding the approval of substitutions of materials or equipment prior to bidding.
 - B. After award of contract the Owner will consider a formal request for the substitution of products in place of those specified, when either the specified material is not available or a superior product has become available. The format for the request for substitution will be furnished to the Contractor by the POC.
- 1.3 Environmental Awareness:
 - A. Reference 40 CFR 261.20 through 261.24.
 - B. The Contractor shall diligently attempt to use products that are environmentally "friendly."
 - C. If the Contractor is unable to provide environmentally "friendly" products, he shall submit to the Owner at the start of Work, a list of those products considered "unfriendly" along with their Material Safety Data Sheets (MSDS's).

- D. Characteristics of environmental "unfriendly" products consist of, but are not necessarily limited to, the following:
1. Ignitability - flashpoint of less than 140°F (60°C).
 2. Corrosivity - pH less than or equal to 2, or greater than or equal to 12.5.
 3. Reactivity - reacts violently with water or generates toxic gases, vapors, or fumes when mixed with water.
 4. Toxicity - any product that may create waste in quantities exceeding those in Table 1 of 40 CFR 261.24.
 5. Toxic Release Inventory (TRI) - any product that appears on this list prepared by EPA.

1.4 Asbestos:

- A. Materials containing asbestos are prohibited on this project. Use only asbestos-free products.

SECTION 01700 CONTRACT CLOSEOUT

1.1 Summary:

- A. This Section describes an orderly and efficient transfer of the completed Work to the Owner.

B. Related Work:

1. Documents affecting work of this Section includes but is not necessarily limited to, General Conditions and Division 1 of this Scope of Work.
2. Activities relative to Substantial Completion and Contract closeout are described in the General Conditions.

1.2 Quality Assurance:

- A. Prior to requesting inspection by the POC, use adequate means to assure that the Work is completed in accordance with the specified requirements and is ready for the requested inspection.

1.3 Cleaning:

- A. Besides general broom cleaning, do the following special cleaning at completion of work:

1. Remove marks, stains, fingerprints, other soil, paint, asphalt, dirt, etc.
2. Clean fixtures and equipment by removing stains, paint, asphalt, dust, dirt and etc.
3. Remove temporary protections.

1.4 Warranty/Guarantee:

- A. The Contractor shall, and hereby does, warrant and guarantee that all work performed on this project will be free from defects of materials and workmanship for a period of two years from the date of Owner acceptance of the project.

- B. Contractor agrees that he will, at his own expense, repair and/or replace all such defective work that is found to be defective during the term of this warranty/guarantee.

1. Should the Contractor fail to repair and/or replace such defective materials and/or workmanship within a period agreed upon between the Owner and the Contractor, the Owner may perform, or have performed, the necessary work, and the Contractor hereby agrees to reimburse the Owner for actual cost.

2. The warranty/guarantee period on any part of the work so repaired and/or replaced shall be extended twelve months from the date of such repair and/or replacement.

- C. This warranty/guarantee will not apply to normal wear and tear or damage by acts beyond the Contractor's control.

- D. Contractor shall secure required warranty/guarantee in a comparable form as that contained in these documents, addressed to and in favor of the Owner.

- E. Delivery of warranty/guarantee will not relieve the Contractor from any obligation assumed under other provisions of the Contract.

- 1.5 Procedures:
- A. Substantial Completion:
1. Prepare and submit the request as required in the Contractor's responsibilities.
 2. Within a reasonable time after receipt of the list, the POC will inspect to determine status of completion.
 3. Should the POC determine that the Work is not substantially complete:
 - a. The POC will notify the Contractor, in writing, giving reason therefore.
 - b. Remedy the deficiencies and notify the POC when ready for reinspection.
 4. When the POC concurs that the Work is substantially complete:
 - a. The POC will prepare a "Certificate of Substantial Completion", accompanied by the Contractor's list of items to be completed or corrected, as verified by the POC.
 - b. The POC will submit the Certificate to the Contractor for signature.
- B. Final Inspection:
1. Notify the POC for final inspection.
 2. Should the POC determine that the Work is incomplete or defective:
 - a. The POC will notify the Contractor, in writing, listing the incomplete or defective work.
 - b. Remedy the deficiencies promptly, and notify the POC when ready for reinspection.
 3. When the POC determines that the Work is acceptable under the Scope of Work and Drawings, he will solicit closeout submittals from the Contractor.
- C. Closeout submittals include, but are not necessarily limited to:
1. Record documents showing:
 - a. Any and all changes made to the Drawings and Scope annotated in red ink on a clean set of the Owner's documents;
 - b. Contractor's signature and date of each sheet of Drawings;
 2. Operation and maintenance data for items so listed in pertinent other Sections of this Scope of Work, and for other items so directed by the POC;
 3. Warranties and bonds;
 4. Spare parts and materials extra stock;
 5. Evidence of payment and release of liens;
 6. Contractor's affidavit indicating compliance with all work required under the terms of the Contract.
- 1.6 Instructions:
- A. Instruct the Owner's personnel in proper operation and maintenance of systems, equipment, and similar items, which were provided as part of the Work.

DIVISION 2

SITE WORK

SECTION 02050

DEMOLITION

PART 1.0

GENERAL

- A. Protection:
- Contractor shall be responsible for the removal and care of all items to be reused as well as components of building, utilities and equipment. Provide a temporary waterproof cover over openings and secure against possible wind blow off. Precautions must be taken at all times to prevent damage to the interior and exterior of the building as well as to grounds. Do not uncover more roofing than can be weather waterproofed prior to inclement weather. Complete the work in such manner that the project is at all times water weather-tight should there be any change to intemperate weather. Do not leave roofing, flashings or ductwork open and provide temporary roofing and waterproofing in emergency for watertight construction in advance of unexpected harsh weather. Remove temporary roofing before proceeding with specified work.

PART 2.0

LABOR, EQUIPMENT AND TOOLS

Furnish all labor, transportation, equipment, tools, incidentals, and services necessary to perform demolition.

PART 3.0 EXECUTION

- A. Precautions:
Care must be taken not to damage roof top equipment, ductwork, wood curbs and platforms, scuppers, gutters, vents, supports, metal counter-flashings, copings, etc., which will be reused. Contractor at his expense shall correct damage incurred during project operations, to Owner's satisfaction.
- B. Demolition:
1. Get rid of grease, oil, and contaminants.
 2. Sweep, and blow-clean (using compressed air) entire roof surfaces, removing all loose gravel, dust, dirt and debris.
 3. Gutter surfaces shall be cleaned to achieve an acceptable surface to which new materials can be applied. Remove any existing roof mastics or other sealant.
 4. Extract metal coping and store in a safe place for later reuse.
 5. Remove from project all gravel, rubbish, dust, flakes, other debris, etc. caused by demolition and legally dispose of off jobsite.

DIVISION 7 THERMAL AND MOISTURE PROTECTION

PART 1.0 GENERAL

- A. Scope:
Work to be performed under this section consists of furnishing all plant, labor, materials, equipment, transportation, tools, incidentals and services necessary to prepare, regravell and coat, with an insulative and reflective cement base roof coating, the four built-up roofing areas on the CSMS. Also, reinstalling sheet metal copings as well as application of a fluid urethane coating to the gutters waterways.
- B. Regulatory Requirements:
1. Follow local, state and federal regulations, fire and safety standards and codes. When a conflict exists, use the stricter document.
 2. All applicable material handling and associated equipment shall conform to and be operated in conformance with Occupational Safety and Health Association (OSHA) safety requirements.
 3. Complete roof system with gravel/insulative and reflective cement base roof coating shall be Underwriters Laboratories (UL) Class A.
- C. Quality Assurance:
1. Contractor:
Roofing applicator shall be acceptable roofing materials manufacturer's current "Approved Roofing Contractor".
 2. Manufacturer:
All information contained in the up-to-date acceptable roofing materials manufacturer's specification manual is hereby made a part of this specification insofar as applicable.
- D. Installation Requirements:
1. Protect paving and building walls prior to starting work.
 2. Extreme care shall be exercised by the contractor to prevent materials from getting on building walls, sidewalks or pavement. If necessary, contractor shall protect adjacent surfaces with tarpaulins or other covering during application of materials.
 3. Suspend application and installation activities during inclement weather.
 4. Keep traffic and equipment off installed products until material have dried completely.
 5. Contractor shall protect installed materials from damage and/or abuse.
- E. Delivery, Storage and Handling of Products:
1. All materials shall be delivered to the job site on pallets in manufacturer's original, unopened containers. Each container or roll shall bear the manufacturer's label as well as Underwriters Laboratories (UL) Classification markings if applicable. Materials shall be delivered in sufficient quantity to allow the work to proceed without interruption.
 2. Store materials in a weather safeguarded environment, clear of ground and moisture, completely protected against water and sun. Stand roll materials on ends with the salvage edge up away from supporting surfaces.
 - a. Make sure materials are covered and well ventilated by the night of delivery. Covering must be done with a tarpaulin or similar covering. Black or clear coverings are not acceptable. If possible, store all materials in a shaded area. Stack palletized unit's one-high.
 - b. Wet or damaged products will be rejected and shall be replaced, without project delay, with new materials in good condition.

3. Keep lids tightly sealed on all containers.
 4. Material handling equipment shall be selected and operated so as not to damage existing construction or applied roofing. Do not operate or situate material handling equipment in locations that will hinder smooth flow of vehicular or pedestrian traffic.
- F. Environmental Requirements:
1. Apply materials in dry weather. Do not work in the presence of water, in rain, in dew, in snow or if inclement weather is expected.
 2. Do not apply materials to frozen surfaces.
 3. Temperature at time of application shall be minimum 55 degrees Fahrenheit and rising.
 4. Do not allow materials to freeze until installed and completely cured.
 5. Spraying of modified asphalt emulsion, insulative and reflective cement base roof coating and elastomeric acrylic roof coating shall not be carried on when wind velocity is excessive.
- G. Project Conditions
1. The roof shall be structurally sound to support the live and dead load requirements of the roofing materials and sufficiently rigid to support construction traffic.
 2. Distribute materials temporarily stored on the roof to stay within the live load limits of the roof construction.
- H. Coordination
- Coordinate and direct execution of related work Sections concurrently with roofing application.

SECTION 07511 REGRAVEL AND COAT FOUR BUILT-UP ROOFING AREAS

PART 1.0 GENERAL

- A. Scope of Work:
- Work to be executed under this section consists of furnishing all plant, labor, materials, equipment and services necessary to apply an elastomeric acrylic roof coating to composition base flashings, jacks, vents, ventilators, etc., and regraveling and coating, with an insulative and reflective cement base roof coating, the four build-up existing roofing areas.
- B. Regulatory Requirements:
- Regravel/insulative and reflective cement base roof coating shall be Underwriters Laboratories (UL) Class A.

PART 2.0 PRODUCTS

- A. Three-Course Flashing:
- Quantities of Three-Course Flashing Materials per 100 Lineal Feet
- | | |
|--|-----------|
| Flashing Compound (two layers – one under and one over polyester fabric) ----- | 10.0 gals |
| Polyester Fabric (one layer) ----- | 100 l.f. |
1. Flashing Compound:

Water base highly concentrated acrylic resinous plastic emulsion flashing compound with inert mineral pigments. Elastomeric white flashing compound to have the following minimum physical properties:

<u>Property</u>	<u>Value</u>
Weight per Gallon	11 lbs
Solids Content	80%
Package Stability	
30 days at 50°C	Pass
Freeze-Thaw Stability	
after five cycles	Pass
Cure Through Time	1 - 2 days
Tack-Free Time	30 min
Slump Channel	None
Gunability	
after 1 week storage @ 32°F and 81% relative humidity	Good
Shore "A" Hardness	
14 days @ 73°F and 50% relative humidity	45
1092 hours in Weather-O-Meter	50
Color Cracking	
300 hours in Weather-O-Meter, channel	None
Low Temperature Flexibility	
14" film @ -10°C	Pass

Tensile Strength	
2 weeks @ 73°F and 50% relative humidity	180 psi
Elongation	
2 weeks @ 73°F and 50% relative humidity	650 – 850%
180-Degree Pell Adhesion	
2 weeks @ 73°F and 50% relative humidity	32 lbs/in

2. Polyester Fabric:

Stitchbonded style polyester fabric for use as reinforcement in cold process roofing systems with the ensuing typical minimum physical properties:

Property	Test Method	Value
Weight		3.0 oz/ sq yd
Tensile Strength, avg	ASTM D1682	57.1 lbs
Elongation	ASTM D1682	61.65%
Mullen Burst	ASTM D3786	176.8 lbs
Trapezoid Tear		
Strength, avg	ASTM D1117	16.1 lbs

3. Flashing Cement:

Flashing cement per ASTM D4586

B. Four Built-Up Roof Areas Regravel and Coat:

Quantities of Materials per 100 Square Feet of Roof Area:

SEBS Modified Clay Asphalt	
Emulsion (to be used as a roof primer) -----	1.0 gal
SEBS Modified Clay Asphalt Emulsion (flood	
coat over existing roofing to receive aggregate) -----	4.0 gals
Aggregate (gravel per ASTM C33 with size modified	
to -3/8" +1/4") spread so particle touch particle -----	(±)200.0 lbs
Elastomeric Acrylic Roof Coating (composi-	
tion base flashing finish – color to be white) -----	3.0 gals
Insulative and Reflective Cement Base	
Roof Coating (dry weight) color to be white -----	50.0 lbs
Insulative and Reflective Cement Base Roof Coating	
Additive (per 50 pound bag of cement base coating) -----	1.0 gal

1. SEBS Modified Clay Asphalt Emulsion:

A single component, clay stabilized asphalt emulsion, modified with SEBS rubber to yield a permanently elastomeric waterproofing compound for cold process roofing. All containers to be supplied with UL Classification labels. SEBS modified clay asphalt emulsion to have the following minimum physical properties:

Property	Test Method	Value
Weight Per Gallon	ASTM D1475	9.2 lbs
Solids Content	ASTM D2697	50-55%
Flash Point, min	ASTM D93	>150° F
Tensile Strength	ASTM D412	
(unreinforced), nom		
@ 73°F		300 psi
@ 0°F		650 psi
Peel Adhesion	ASTM D413	
(3 ply membrane), min		
to glass base sheet		15 pli
Elongation, 0/0	ASTM D412	
(unreinforced), min		
@ 73°F		750%
@ 0°F		400%
Moisture Vapor Transmis-		
sion Rate, Permeability	ASTM E96	.021
Permanent Set @ Break	ASTM D412	
(unreinforced), max		
@ 73°F		16%
@ 0°F		12%

a. Coverage:

When applied at a rate of 1 gallon per 100 square feet, the dry film thickness should be 8 mils (203 dry microns).

2. Aggregate:
Double washed natural aggregate per ASTM D33 with size modified to $-3/8" + 1/4"$. (Note: If specified gravel is not available, submit alternate aggregate [as close as can be matched to gravel stated above] for approval.)

3. Elastomeric Acrylic Roof Coating:
Elastomeric acrylic roof coating shall be a single component 100% acrylic rubber emulsion type, specifically formulated as a reflective, ultra-violet and moisture resistant surfacing. Coating to have permanent stain and mildew resistance and can be applied over aged and unaged asphaltic substrates, also shall be highly resistant to blistering under ponding water. The coating shall have been tested and classified by Underwriters Laboratories as Class A and Class B per UL 790 and UL 1256. Coating to meet or exceed ASTM D6083. To be Environmental Protection Agency (EPA) Energy Star rated. All containers shall be supplied with UL Classification labels. The elastomeric acrylic roof coating is to be white and to have the following physical properties:

<u>Property</u>	<u>Test Method</u>	<u>Value</u>
Weight Per Gallon	ASTM D1475	11-12 lbs
Solids Content, min	ASTM D2697	70%±2%
Flash Point, min	ASTM D93	>302°F
Tensile Strength, max	ASTM D2370	
@ 75°F		720 psi
@ 32°F		100 psi
Elongation, 0/0	ASTM D2370	
@ 75°F		980%
@ 32°F		130%
Adhesion	ASTM C794/D930	
wet @ 75°F	ASTM C794/D930	Pass (0.8 A)
dry @ 75°F	ASTM D413	Pass (0.6 A)
Low Temperature Flexibility	ASTM C522	
@ 30°F		180°/180°
@ -30°F		180°/180°
Permeance	ASTM D1653	3 @ 20 mil
Ultraviolet Exposure	ASTM D4798	
1000 hrs	Xenon Arc	No cracking, checking, loss of flexibility or discoloration
Water Swelling 0/0	ASTM D471	
after 1 wk		12.1%
after 4 wks		26%
Blistering on Modified Bitumen After 14 Days Under Water		Excellent (none)
VOC		39 grams/liter
Fungus Resistance	ASTM G21	No growth or discoloration
Reflectivity	ASTM E97	90%
Emissivity	ASTM C1371	0.91

- a. Coverage:
When applied at a rate of 1 gallon per 100 square feet, the dry film thickness should be 11 mils (254 dry microns).

4. Insulative and Reflective Cement Base Roof Coating:
Insulative and reflective cement base roof coating to be a powder formulation of cementitious materials with titanium, resins, and other fillers, pigmented white. Water to be added on job site at the rate of six (6) gallons per 50 pounds of insulative and reflective cement base roof coating compound.
 - a. The Insulative and reflective cement base roof coating/gravel surfaced roof system provides a minimum "R" factor of 1.33 (closed chamber heat transfer) plus a reflective or emissivity "R" of 2.00 (summer flow down).
 - b. Insulative and reflective cement base roof coating to meet the requirements for Class "A" fire-retardant roofing when installed over gravel built-up roof with aggregate particle touching particle in lieu of 400 lbs. gravel or 300 lbs. slag.

1. Minimum compression strength 5000 psi when cured as outlined in ASTM C163. Minimum reflectance 85.5% per Federal Test Standard No. 141. Accelerated weathering resistance per ASTM G26, after 300 hours, there shall be no evidence of deterioration. Freeze-Thaw; wet test (one cycle: 12 hours in freeze chamber at 10°F and 12 hours in boiling water), dry test (one cycle: 12 hours in freeze chamber at 10°F and 12 hours thaw at room temperature; after each has cycled ten (12hours) times – there shall be no visual deterioration. To be opaque to ultra-violet and visible light.
5. Insulative and Reflective Cement Base Roof Coating Additive:
High solids content (54 to 56% by weight) acrylic resin, waterbase, breather type, air drying, unpigmented, with ultra-violet retarders, insulative and reflective cement base roof coating additive.

PART 3.0 EXECUTION

A. Four Built-Up Roofing Areas Regravel and Coat:

1. Primer:
Sweep roof clean. Prime existing insulative and reflective cement base roof coating/gravel surfaces with SEBS Modified Clay Asphalt Emulsion at the rate of one (1) gallon per 100 square feet and allow to dry completely.
2. SEBS Modified Clay Asphalt Emulsion and Aggregate:
 - a. Apply a uniform monolithic coat of SEBS Modified Clay Asphalt Emulsion at the rate of four (4) gallons per 100 square feet and while tacky embed therein-acceptable gravel at a rate required for particle to touch particle. Do not allow aggregate to tumble. Care must be taken to get absolute and complete coverage, making sure all membrane surfaces are completely obliterated. Gravel must adhere to the emulsion.
 - b. Allow modified asphalt emulsion to dry completely. Lightly sweep, removing excess aggregate and repair areas not completely covered so that particle touches particle. Approximately 90% of the gravel shall be firmly embedded in modified asphalt emulsion without voids or emulsion bleed-out, balance may be loose but evenly distributed over the roof surface.
3. Elastomeric Acrylic Roof Coating:
 - a. Surface to receive elastomeric acrylic roof coating shall be clean, free of dust, dirt and foreign matter. Stir acrylic roof coating thoroughly before and occasionally during application. Strain and install with spray equipment or roller.
 - b. Apply two uniform coats to all base flashings, vents, stacks, ventilators, etc., using three (3) gallons minimum per 100 square feet (approx. 27 mils dry thickness) at the rate of one (1½) gallon per each coat. Install the second coat right angle to the first. The finish coat may be applied as soon as the first coat is dry.
4. Insulative and Reflective Cement Base Roof Coating:
 - a. Measure into container six (6) gallons of water for every 50 pound bag of insulative and reflective cement base roof coating to be used in a mix, then compound shall be added in a flowing procedure - not dumped. Add one (1) gallons additive per 50 pounds of compound. Mixing must continue until all of the powder is smoothly dispersed and a creamy mass is uniform throughout the container, also until all of the material is used.
 - b. When ambient temperature is 80-degrees Fahrenheit or greater, fog spray gravel surface with water. The roof must be damp but not dripping. Continue to dampen roof as gravel dries to lower roof surface temperature, allowing cement base roof coating to achieve a slower cure.
 - c. Spray or broom cement base roof coating mix in two applications, second coat right angle to first coat, over the gravel in uniform coats, a total of 50 pounds minimum dry weight per 100 square feet (approximately 8½ gallons liquid per 100 square feet).

SECTION 07540 FLUID APPLIED ROOFING (for gutters)

PART 1.0 GENERAL

A. Scope:

Work includes cleaning and preparation of the sheet metal surfaces, rust treatment as needed by project conditions, structural repair of the gutter if needed, sealing of seams with mastic grade materials, and the application of a fluid urethane coating of the gutters waterways.

B. Quality Control:

All applicable requirements of the manufacturer's specification and application guide are to be considered hereby incorporated by this reference. Any conflicts or ambiguities between these project documents, Manufacturer's requirements, and any other documents pertaining to this project shall be brought to the attention of the Owner's representative before the proposal is submitted. In the event that such questions are not resolved before proposal submission, the contractor will be considered to have based his proposal on the more expensive material or procedure.

PART 2.0

PRODUCTS

- A. Base Coat:
A high solids moisture cure general purpose black urethane suitable as base coat for multi-coat systems and as general maintenance on most surfaces.
- | <u>Property</u> | <u>Test Method</u> | <u>Value</u> |
|------------------|--------------------|----------------|
| Solids Content | | 78% |
| Tensile Strength | ASTM D 412 | 250 psi |
| Elongation | ASTM D 471 | 1,100% |
| Hardness | ASTM D 1004 | 25 -35 Shore A |
| Tear Resistance | ASTM D 1004 | 30 psi |
| Peel Adhesion | ASTM C 794 | 10 lbs/in |
- B. Surface Coat:
High-solids moisture cure general-purpose urethane. Suitable for harsh chemical and industrial environments and cold weather applications, and is compatible with most materials. Color to be white.
- | <u>Property</u> | <u>Test Method</u> | <u>Value</u> |
|-----------------------------|--------------------|---------------------|
| Tensile Strength, min | ASTM D 412 | 1,200 psi |
| Elongation, min | ASTM D 412 | 500% |
| Permanent Set at Break | ASTM D 412 | 10% |
| Hardness | ASTM D 412 | 60 -70 Shore A |
| Tabor Abrasion | ASTM D 2240 | 250 lbs. |
| Adhesive to Substrate | ASTM D 1004 | 5 mg loss |
| Weather Stability Maintains | | |
| Flexibility in Heat/Cold | | -40°F to 180°F |
| Thermo Shock | | |
| Alternate Heat/Cold Cycle | | No loss of Adhesive |
| Transmission at 36 mils | ASTM E 96 | 1.1 perms |
| Water Absorption | | |
| 7 Days @ 75°f, max | ASTM D471 | 0.8% by weight |
- C. Thickening Agent:
Plastic based fiber additive to mix with the specified Base Coat to alter viscosity to a trowel or brush consistency to create flashing mastic for flashing detail/repair work.
- | <u>Property</u> | <u>Value</u> |
|-----------------|---------------|
| Melting Point | 248°F - 271°F |
| Flash Point | 665°F |
| Ph | 1.5 – 7.0 |
| Appearance | Fluffy Powder |
| Color | White |
- D. Reinforcement Fabric:
Stitchbonded polyester textile fabric manufactured for cold process roofing applications.
- | <u>Property</u> | <u>Test Method</u> | <u>Value</u> |
|-------------------|--------------------|----------------|
| Weight | ASTM D1910 | 2.75 oz/yd sq |
| Tension, md/xd | ASTM D5035 | 29/6 lb in |
| Elongation, md/xd | ASTM D 5035 | 24/62% |
| Tear Strength | ASTM D 5035 | 2500 / 2900 gr |
- E. Surface Cleaner:
Highly effective surface cleaner for non-porous surfaces.
- | <u>Property</u> | <u>Test Method</u> | <u>Value</u> |
|------------------|--------------------|------------------|
| pH | | 12.5 – 13.5 |
| Solids by Weight | | 5 – 7% |
| VOC | EPA 24 | 0.3 – 0.6 lb/gal |
- F. Rust Converter:
Water-based rust converter applied over all rusted areas evident on sheet metal after clean-up
- | <u>Property</u> | <u>Value</u> |
|------------------|--------------|
| Solid Content | 50% ± 5% |
| Specific Gravity | 1.3 - 1.4 |
| Viscosity, max | 125 CP |
| VOC, max | 0.3 lbs/gal |

PART 3.0 EXECUTION

- A. Surface Preparation:
1. All surfaces to receive new materials shall be clean to achieve an acceptable surface to which new materials shall be applied.
 2. Surfaces previously coated with acrylic or aluminum coating, or with remaining contaminants must be power washed using high-pressure, clean water and an admixture of Surface Cleaner as part of the surface preparation.
- B. Surface Repairs:
1. Install all coatings in a uniform manner to the specified quantities and without pooling or puddling.
 2. Minor surface defects smaller than ¼", must be repaired in a three-course process defined as Reinforcement Fabric between two 1½-gal/square layers of thickened Base Coat.
 3. Major defects such as holes can be covered by placing like metal over affected area and pop-riveting into place. All sheet metal repairs shall be flashed using thickened Base Coat and Reinforcement Fabric.
 4. Severe surface rust is not acceptable as a coatable surface. Such areas should be removed and replaced. Light surface rust shall be treated with Rust Converter.
- C. Seams, Laps or Penetration Repair:
1. Ensure surface is free of dirt and debris, or other surface contaminants.
 2. Apply the thickened Base Coat to gutter internal surface in a uniform manner, brushing the material to the surface to ensure full contact. Immediately embed a single layer of Reinforcement Fabric and brush into the freshly applied thickened Base Coat, to wet the Reinforcement Fabric. Apply a second layer of thickened Base Coat at an equal rate, over coating the Reinforcement Fabric.
 3. Depending on gutter scupper/downspout design. Reinforcement Fabric may have to be continued into the scupper/drain opening.
 4. Flash in all related joints and seams.
 5. Allow the newly installed seam, lap or penetration repair to fully cure before applying the remaining coatings.
- D. Base Coat Application:
1. Make certain the surface is free of dirt and debris, or surface moisture.
 2. The Base Coat shall be applied in a uniform rate of 1½-gal/square over the interior surface of the gutter including, if required, the scupper/drain openings. Apply material in a uniform fashion and allow Base Coat to dry 24 – 48 hours depending on humidity and temperature.
- E. Surface Coat Application:
1. The Surface Coat shall be applied in a uniform rate of 1½- gal/square over the interior surface of the gutter including, if required, the scupper/drain opening. Apply material in a uniform fashion and allow to dry 24 – 48 hours depending on humidity and temperature.
 2. Inspect completed work for any visual defects and recoat/repair as needed.

SECTION 07600 SHEET METAL AND FLASHINGS

PART 1.0 GENERAL

- A. Sheet metal to be in compliance with acceptable roof system manufacturer's, Sheet Metal and Air Conditioning Contractor's National Association (SMACA), and the National Roofing Contractor's Association (NRCA), recommendations, or as specified herein, which ever is the most stringent.
- B. Accurately form all sheet metal to the proper size, shape and dimensions specified with all angles and lines in true alignment, straight, sharp, plumb, level and in place without bulges or waves. Where intercepting each other they shall be coped to an accurate fit and securely soldered. Conform to the best standard practices known to the trade. Form, fabricate and erect to provide for expansion and contraction in completed work. Finish weather and watertight throughout.
- C. All roof penetrations and base flashing top edges shall incorporate sheet metal.

PART 2.0 MATERIALS

- A. Sheet Metal Coping:
- Reuse existing sheet metal coping. If removed coping is defective or damaged, replace matching present size, shape, gage and installation. Install bleeder sheet under coping. Also, paint entire coping.
1. Bleeder Sheet:
Minimum 30 pound G2 SBS Glass Fiber Base Sheet per ASTM D4601.

2. Sheet Metal Cleats:
Use again present sheet metal cleats. Supply new cleats as required to achieve cleats spaced on 24-inch centers (on both sides of coping) matching existing size, shape and gauge from galvanized steel per ASTM A526. New cleats to be secure the same as existing.
 - a. Sheet Metal Screws:
Provide galvanized sheet metal screws to secure coping to cleats.
3. Paint entire coping the same color as existing.
Use painting materials as manufactured by Dunn-Edwards, Devoe Paint, Benjamin Moore & Co., Sherwin Williams, Pioneer & Varnish, or Frezee Paints. First Coat – Zinc chromate primer.
 - a. Second Coat – Semi-gloss alkyd undercoat
 - b. Third Coat – Semi-gloss alkyd enamel.

PART 3.0 EXECUTION

- A. Coping:
Apply a bleeder sheet underlayment, then reinstall sheet metal coping.
 1. Install cleats on both sides of parapet walls spaced on 24-inch centers.
 2. Telescope coping hemmed drip edge into cleats and secure with one sheet metal screw per cleat.
 3. Paint coping follow paint manufacturers instructions.

SECTION 07900 SEALANT

PART 1.0 GENERAL

- A. Locations
Caulk as field conditions dictate.

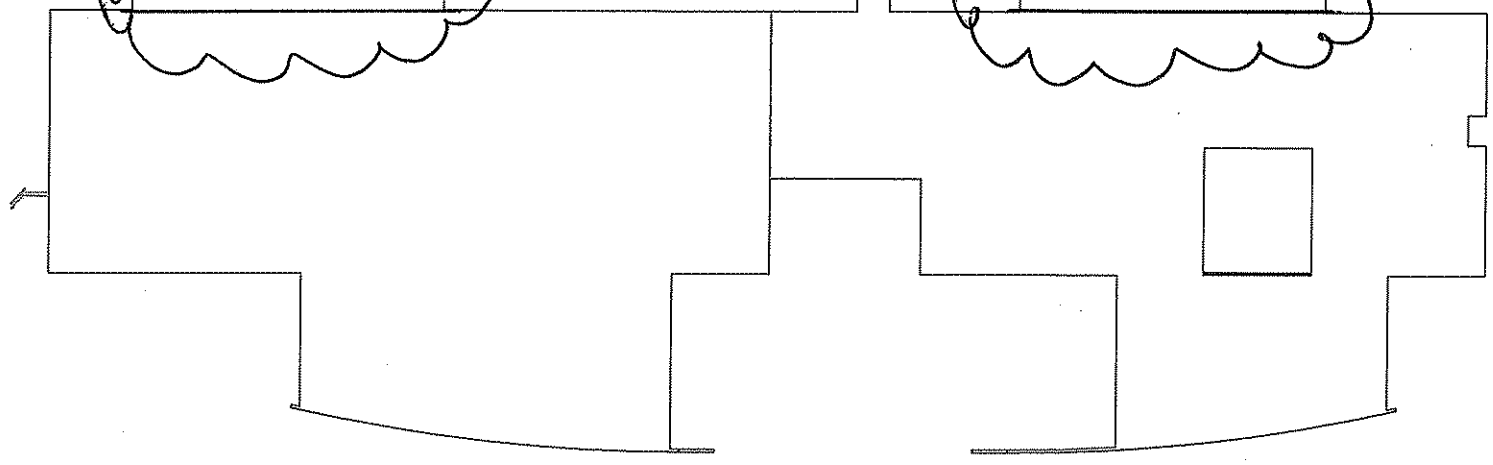
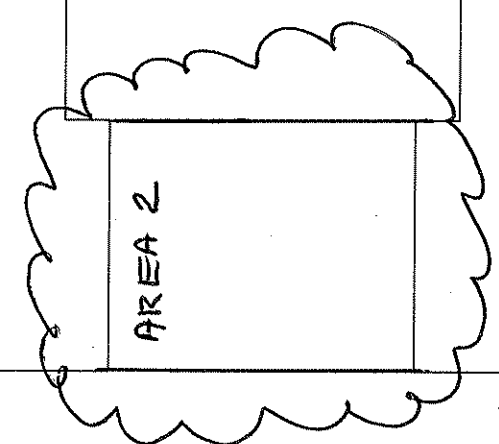
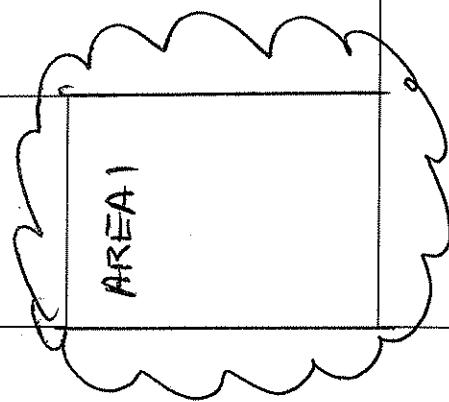
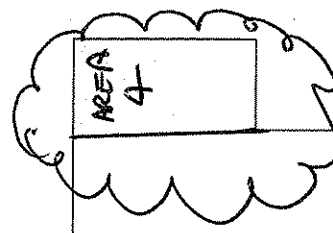
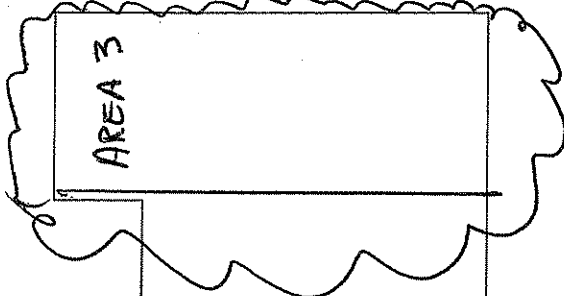
PART 2.0 MATERIALS

- A. Sealant
Sonolastic SL1 by Sonneborn, or equal approved by owner. Sealant shall comply with Federal Specification TT-S-00230C.
 1. Use sealant whose date of manufacturer shows they have not exceeded their shelf life. Do not use sealant with a date of manufacture more than 12 months old.
 2. Sealant Backup Materials
As manufactured or recommended by the sealant manufacturer for the substrate type and gape size. Backup material shall be sized to be slightly compressed when installed.

PART 3.0 EXECUTION

- A. Application
Follow manufacturer's instructions regarding surface preparation and application. Apply caulking under pressure, using gun with nozzle of proper size. Neatly point and tool Sealant surface. Clean adjacent surfaces and leave all finished work in neat, clean condition.

-END



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